

IN THE SPECIFICATION:

The paragraph beginning at page 2, line 16, has been amended as follows:

According to the present invention, a pulsed laser beam of wavelength different from the absorption wavelength of rare earth and/or transition metal ion emitted to an inorganic body containing rare earth and/or transition metal ion in ~~the~~ a manner such that a focal point of the pulsed laser beam is adjusted to an inner part of the inorganic body. Such ~~that the~~ condensing irradiation induces valence change of the rare earth and/or transition metal ion only at the focal point and its vicinity.

The paragraph beginning at page 4 line 22 has been amended as follows:

The inner part (reformed part) of the inorganic body 3 at the focal point 2 and its vicinity is the ionic valence-changed domain, while rare earth or transition metal ion at the remaining part (unreformed part) is still of its original valence. The resulting differentiated ionic valence between the reformed and unreformed parts causes differences in optical characteristics such as light absorption and light emission. The inorganic body reformed in this way is useful as a function device such as an optical memory device, light-emitting device or amplifier device, using such ~~the~~ differentiated ionic valence.

The paragraph beginning at page 5, line 6 has been amended as follows:

$\text{SiO}_2$ ,  $\text{Na}_2\text{CO}_3$ ,  $\text{Eu}_2\text{O}_3$  raw materials were weighed and mixed together to prepare oxide glass composition which contained cations at ratios of 73 mol%  $\text{Si}^{4+}$ , 25 mol%  $\text{Na}^+$  and 2 mol%  $\text{Eu}^{2+}$ . The mixture was put in a Pt crucible and melted 30 minutes at  $1450^\circ\text{C}$  and then cooled to a room temperature. A glass obtained in this way was received in a carbon crucible and subjected to a reducing reaction at  $1450^\circ\text{C}$  in an atmosphere of 5 vol.%  $\text{H}_2\text{N}_2$  for 60 minutes.

Thereafter, the glass melt was rapidly cooled together with the crucible to a room temperature, to obtain a  $\text{Eu}^{2+}$ -containing oxide glass.

The paragraph beginning at page 5, line 23 has been amended as follows:

A light beam of 400nm wavelength was emitted to and condensed at the same focal point 3 of the testpiece after being irradiated with the condensed pulsed laser beam, using a confocus optical system (shown in Fig. 2). In this confocus optical system, a laser beam 1 which held diffraction minimum penetrates a tube lens 5 and an objective lens 6, and condensed in a surface or inner part of the testpiece 3. When a condensing plane 7 is adjusted to the inner part of the testpiece 3, a light through the condensing plane 7 penetrates the objective lens 6 and tube lens 5, and is imaged on a confocus pin-hole 9 by a beam splitters 8. Since light beams emitted from the other parts except the condensing plane 7 of the testpiece 3 are effectively separated by the confocus pin-hole 9, characteristic changes, i.e., ionic valence change, at the focal point 3 is are proven from a fluorescence spectrum obtained by detecting the image formation with a photodetector 10.

The paragraph beginning at page 6, line 7 has been amended as follows:

Fig. 3 is a measuring result of a fluorescence spectrum (a) from a part corresponding to the focal point 2 (shown in Fig. 1). The presence of a fluorescence spectrum originated in  $\text{Eu}^{3+}$  is noted in Fig. 3. For comparison, a fluorescence spectrum from the other part except the focal point 2 was measured in the same way. In this case, a fluorescence spectrum (b) originated in  $\text{Eu}^{2+}$  was detected. It is apparently recognized by comparing these fluorescence spectra (a) and (b) that the valence of Eu ion was changed from 2+ to 3+ at the focal point 2 and its vicinity by emitting the pulsed laser beam 1 to and condensing it at the inner part of the

testpiece 3. The same valence change of Eu ion from 2+ to 3+ ~~were~~ was detected by emitting a pulsed laser beam and condensing it at an inner part of another glass containing halide, sulfide or chalcogenide in the same way.

The paragraph beginning at page 7, line 16 has been amended as follows:

A testpiece 3 of 10mm in length, 10mm in width and 5mm in thickness was prepared from a single crystal having compositions of  $\text{AlF}_3 : \text{SrF}_3 : \text{LiF} = 1:1:1$  (a mol ratio) and containing 1 mol%  $\text{Ce}^{3+}$ , and polished at an optical level. A pulsed laser beam of 550nm wavelength with 120 femtoseconds pulse width and a 200kHz repetition rate was emitted to the testpiece 3 in ~~the~~ a manner such that the pulsed laser beam 1 was condensed at a focal point 2 adjusted to an inner part of the testpiece 3 with a peak energy density of  $10^8\text{-}10^{15}\text{W/cm}^2$ . In Example 3, the testpiece 3 was shifted under such ~~the~~ irradiating condition at a speed of  $20\mu\text{m/second}$  with respect to an optical axis of the laser beam 1.

Please delete the heading "INDUSTRIAL APPLICATION" on page 8, line 6.